Lakshmi Lavanya N

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Professional Summary

Passionate **Artificial Intelligence** and **Machine Learning** Engineering student with strong foundations in **Software Development** and **Data Structures**. Skilled in designing **scalable, optimized** solutions using **C++, Python,** and **Object-Oriented Programming**. Experienced in developing **end-to-end applications** and **machine learning systems** using **Flask, MySQL**, and **Cloud platforms**, with a focus on performance, efficiency, and real-world impact.

Education

RNS INSTITUTE OF TECHNOLOGY — **Dec 2022 - Present**
Bachelor of Engineering in CSE (AIML) (CGPA: 8.80 / 10.00) — Bangalore, Karnataka

Kumaran's Composite PU College — **Mar 2021 - Apr 2022**
Senior Secondary (MARKS: 92%) — Bangalore, Karnataka

Projects

NutriScan AI: Fruit Analytics Platform / Python, Streamlit, XGBoost, K-Means, Pandas, Matplotlib, MySQL

- Engineered a **full-stack AI-driven platform** to compare **Indian vs. imported fruits** based on nutrients, price, and carbon footprint, Promoting local produce.
- Implemented **XGBoost** and **K-Means** on large datasets to deliver personalized, cost-effective, and sustainable fruit recommendations. Improved fruit classification accuracy by **15%** using **XGBoost optimization**.
- Automated an interactive **Streamlit dashboard** deployed on Google Cloud, using MySQL for structured data management.

Cyber Threat Detection Using Machine Learning / Python, Unsupervised Learning Algorithms

- Automated an **unsupervised anomaly detection model** using **Isolation Forest** and **Local Outlier Factor** to identify threats in a **credit card dataset**.
- Enhanced detection precision through advanced feature engineering, reducing false positives by **12%**. Applied ML pipelines to detect anomalies in real-time datasets for proactive threat mitigation.

Alcohol Detection Using MP3 Sensor /8051 Microcontroller, Embedded Systems

- Designed an alcohol detector with a buzzer to detect **concentrations** beyond a **threshold**, useful for driver safety.
- Implemented the system for applications like **workplace safety monitoring**, winning a **college-level ideathon**.
- Gained hands-on experience in **embedded systems** and **hardware-software integration.**

Technical Skills

Languages : C++ | Python | SQL | HTML | CSS.
Tools : Google Collab |Flask | Git | GitHub.
Databases : MongoDB | MySQL.
Coursework : Machine Learning | Artificial Intelligence.
Core CS Skills : Data Structures and Algorithms | Object-Oriented Programming | Operating Systems | DBMS | Networking | Problem Solving | Complexity Analysis | UNIX | System Design Basics.

Achievements

IEEE YESIST12 PRELIMS (OPEN HOUSE PROJECT EXPO) - Achieved **1st Prize** in a competition with **150+** participants
AI-IDEA (PROJECT EXPO) - Awarded **2nd Prize** among **100+** participants

Certifications

Introduction to Artificial Intelligence
Introduction to Deep Learning

Social Engagements

Club Member at **InnovAlt-ON** (Tech Club) & **AMURA** (Cultural Club)
Sports Engagements: Actively participated in **Badminton, Carrom, Football**, and **Basketball**, fostering teamwork and leadership in competitions.